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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/408,149	09/29/1999	BHIMSEN BHANJOIS	07575/034001	3652

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EXAMINER

ALI, SYED J

ART UNIT	PAPER NUMBER
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2127

DATE MAILED: 09/09/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application

09/408,149

Examiner

Syed J Ali

Applicant(s)

BHANJOIS ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. This office action is in response to Amendment A, paper number 8, which was received July 7, 2003. Applicant's arguments filed July 7, 2003 have been fully considered but they are not persuasive. Claims 1-33 are presented for examination.

2. The text of those sections of Title 35, U.S. code not included in this office action can be found in a prior office action.

Response to Arguments

3. Regarding the amendments to claims 2 and 31, the amendments therein do not substantively alter the scope of the claims. Therefore, the discussion as presented in the previous Office action is still considered pertinent. Applicant's arguments regarding independent claims 1, 11, 21, and 31 are addressed below.

4. On page 19, Applicant argues, "*Fitch does not attempt to address the issue of implementing real-time processes while using non-preemptive microkernels. Nor does Fitch teach or suggest...using non-preemptive microkernels to execute kernels as processes.*" This argument is presented regarding independent claims 1, 11, 21, and 31, each of which recite similar limitations.

Regarding the prior argument, it is acknowledged that Fitch does not address the issue of implementing real-time processes while using non-preemptive microkernels. However, the

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claims at issue do not make any reference to real-time processes. Rather, the claims recite a non-preemptive microkernel that executes one or more processes in accordance with priority, which Fitch does disclose (col. 4 lines 43-50, "One embodiment of a method/system for managing context scheduling pursuant to the present invention is...with a nonpreemptive scheduling environment", col. 5 lines 3-15, "If the ready to run queue contains one or more control contexts, then the scheduling algorithm(s) is(are) employed to determine priority"). While this citation does not specifically mention that the scheduling environment is regarding a microkernel, the Background Art of Fitch clearly indicates that the parallel processing system therein is related to microkernels (col. 1 line 17 - col. 2 line 16, "A parallel microkernel...is generally written to efficiently direct the capabilities of each machine environment in achieving a single goal").

Regarding the latter argument, Fitch defines each processing node as a separate kernel, and assigns each an individual address space. The method of Fitch then seeks to schedule the execution of the control contexts each microkernel executes within its individual address space, while also performing inter-process communication to maintain data dependencies that may affect applications in other address spaces. When the main kernel is divided into a plurality of microkernels, where each microkernel is essentially a processing node, the kernel associated with that particular processing node inherently must be scheduled for execution on the processor(s) of that node. Therefore, Fitch meets the limitation of **"one or more kernels adapted to be executed as one or more processes by the non-preemptive microkernel,"** in that each microkernel (processing node) has associated with it low-level hardware interfaces and resource allocation requirements, i.e., a kernel, that must be executed on the processor.

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5. Regarding claims 2-10, 12-20, 22-30, and 32-33, no substantive arguments have been presented other than their depending on independent claims 1, 11, 21, and 31, for which arguments have been presented. Thus, the discussion of these claims as presented in the previous Office action is still considered pertinent, and claims 1-33 stand rejected as discussed in the previous Office action, as well in view of the Response to Arguments presented above.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Syed J Ali whose telephone number is (703) 305-8106. The examiner can normally be reached on Mon-Fri 8-5:30, 2nd Friday off.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William A Grant can be reached on (703) 308-1108. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



Syed Ali
August 27, 2003



MAJID A. BANANKHAH
PRIMARY EXAMINER